

## SEQUENCE LISTING

<110> Blackwell, T. Keith  
An, Jae Hyung

<120> SKN-1 GENE AND PROTEINS

<130> 10276-093US1

<140> US 10/560,563

<141> 2005-12-12

<150> PCT/US2004/19046

<151> 2004-06-14

<150> US 60/478,185

<151> 2003-06-13

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gatattgctg gagagaaggg cacacgacaa gtggctcctg ctgatcagta cgaatgtgat 660
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Tyr Glu Asp Leu Ser Lys Gly Phe Tyr Asn Gly Phe Phe Glu Ser Phe  
                  245                 250                 255  
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                  260                 265                 270  
 Ile Lys Thr Pro Thr Leu Glu His Pro Thr Gln Lys Ala Glu Leu Glu  
                  275                 280                 285  
 Asp Asp Leu Phe Asp Glu Asp Leu Ala Gln Leu Phe Glu Asp Val Ser  
                  290                 295                 300  
 Arg Glu Glu Gly Gln Leu Asn Gln Leu Phe Asp Asn Lys Gln Gln His  
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 Pro Val Ile Asn Asn Val Ser Leu Ser Glu Gly Ile Val Tyr Asn Gln  
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 Ala Asn Leu Thr Glu Met Gln Glu Met Arg Asp Ser Cys Asn Gln Val  
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 Ser Ile Ser Thr Ile Pro Thr Thr Ser Thr Ala Gln Pro Glu Thr Leu  
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 Phe Asn Val Thr Asp Ser Gln Thr Val Glu Gln Trp Leu Pro Thr Glu  
                  370                 375                 380  
 Val Val Pro Asn Asp Val Phe Pro Thr Ser Asn Tyr Ala Tyr Ile Gly  
                  385                 390                 395                 400  
 Met Gln Asn Asp Ser Leu Gln Ala Val Val Ser Asn Gly Gln Ile Asp  
                  405                 410                 415  
 Tyr Asp His Ser Tyr Gln Ser Thr Gly Gln Thr Pro Leu Ser Pro Leu  
                  420                 425                 430  
 Ile Ile Gly Ser Ser Gly Arg Gln Gln Gln Thr Gln Thr Ser Pro Gly  
                  435                 440                 445  
 Ser Val Thr Val Thr Ala Thr Ala Thr Gln Ser Leu Phe Asp Pro Tyr  
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 His Ser Gln Arg His Ser Phe Ser Asp Cys Thr Thr Asp Ser Ser Ser  
                  465                 470                 475                 480  
 Thr Cys Ser Arg Leu Ser Ser Glu Ser Pro Arg Tyr Thr Ser Glu Ser  
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 Ser Thr Gly Thr His Glu Ser Arg Phe Tyr Gly Lys Leu Ala Pro Ser  
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 Ser Gly Ser Arg Tyr Gln Arg Ser Ser Ser Pro Arg Ser Ser Gln Ser  
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 Ser Ile Lys Ile Ala Arg Val Val Pro Leu Ala Ser Gly Gln Arg Lys  
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 Arg Gly Arg Gln Ser Lys Asp Glu Gln Leu Ala Ser Asp Asn Glu Leu  
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 Pro Val Ser Ala Phe Gln Ile Ser Glu Met Ser Leu Ser Glu Leu Gln  
                  565                 570                 575  
 Gln Val Leu Lys Asn Glu Ser Leu Ser Glu Tyr Gln Arg Gln Leu Ile  
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 Arg Lys Ile Arg Arg Arg Gly Lys Asn Lys Val Ala Ala Arg Thr Cys  
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<210> 11  
 <211> 23  
 <212> PRT  
 <213> Caenorhabditis elegans

<400> 11  
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<210> 12  
<211> 2549  
<212> DNA  
<213> Caenorhabditis elegans

<400> 12

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ccaccagcat ctccattcgg tagaggacca tctacagaac gtccaaaccac atcatctcg 540  
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gatattgctg gagagaaggg cacacgacaa gtggctcctg ctgatcagta cgaatgtgat 660  
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gagatgcaag agatgcgtga ttccgtcaat caagttcca ttcaacaat tccaacaaca 1080  
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<211> 420

<212> PRT  
<213> Homo sapiens

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 35 40 45  
 Asp Arg Pro Gln Glu Val Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn  
 50 55 60  
 Gly Ser Phe Gly Val Val Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu  
 65 70 75 80  
 Leu Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg  
 85 90 95  
 Glu Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu  
 100 105 110  
 Arg Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu  
 115 120 125  
 Asn Leu Val Leu Asp Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg  
 130 135 140  
 His Tyr Ser Arg Ala Lys Gln Thr Leu Pro Val Ile Tyr Val Lys Leu  
 145 150 155 160  
 Tyr Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Phe Gly  
 165 170 175  
 Ile Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Leu Asp Pro Asp  
 180 185 190  
 Thr Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val  
 195 200 205  
 Arg Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala  
 210 215 220  
 Pro Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val  
 225 230 235 240  
 Trp Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile  
 245 250 255  
 Phe Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val  
 260 265 270  
 Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr  
 275 280 285  
 Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val  
 290 295 300  
 Phe Arg Pro Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu  
 305 310 315 320  
 Leu Glu Tyr Thr Pro Thr Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala  
 325 330 335  
 His Ser Phe Phe Asp Glu Leu Arg Asp Pro Asn Val Lys Leu Pro Asn  
 340 345 350  
 Gly Arg Asp Thr Pro Ala Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser  
 355 360 365  
 Ser Asn Pro Pro Leu Ala Thr Ile Leu Ile Pro Pro His Ala Arg Ile  
 370 375 380  
 Gln Ala Ala Ala Ser Thr Pro Thr Asn Ala Thr Ala Ala Ser Asp Ala  
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 Asn Thr Gly Asp Arg Gly Gln Thr Asn Asn Ala Ala Ser Ala Ser Ala  
 405 410 415  
 Ser Asn Ser Thr

<210> 14  
<211> 483  
<212> PRT  
<213> Homo sapiens

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Gly Gly Gly Pro Gly Gly Ser Ala Ser Gly Pro Gly Gly Thr Gly Gly  
35 40 45  
Gly Lys Ala Ser Val Gly Ala Met Gly Gly Gly Val Gly Ala Ser Ser  
50 55 60  
Ser Gly Gly Gly Pro Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro  
65 70 75 80  
Gly Ala Gly Thr Ser Phe Pro Pro Gly Val Lys Leu Gly Arg Asp  
85 90 95  
Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu  
100 105 110  
Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly  
115 120 125  
Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu  
130 135 140  
Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu  
145 150 155 160  
Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg  
165 170 175  
Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn  
180 185 190  
Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His  
195 200 205  
Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr  
210 215 220  
Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val  
225 230 235 240  
Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr  
245 250 255  
Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg  
260 265 270  
Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro  
275 280 285  
Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp  
290 295 300  
Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Gly Gln Pro Ile Phe  
305 310 315 320  
Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu  
325 330 335  
Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr  
340 345 350  
Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe  
355 360 365  
Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu  
370 375 380

Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His  
 385 390 395 400  
 Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn  
 405 410 415  
 Arg Pro Leu Pro Pro Leu Phe Asn Phe Ser Ala Gly Glu Leu Ser Ile  
 420 425 430  
 Gln Pro Ser Leu Asn Ala Ile Leu Ile Pro Pro His Leu Arg Ser Pro  
 435 440 445  
 Ala Gly Thr Thr Leu Thr Pro Ser Ser Gln Ala Leu Thr Glu Thr  
 450 455 460  
 Pro Thr Ser Ser Asp Trp Gln Ser Thr Asp Ala Thr Pro Thr Leu Thr  
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 Asn Ser Ser

<210> 15  
 <211> 420  
 <212> PRT  
 <213> Mus musculus

<400> 15  
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 35 40 45  
 Asp Arg Pro Gln Glu Val Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn  
 50 55 60  
 Gly Ser Phe Gly Val Val Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu  
 65 70 75 80  
 Leu Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg  
 85 90 95  
 Glu Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu  
 100 105 110  
 Arg Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu  
 115 120 125  
 Asn Leu Val Leu Asp Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg  
 130 135 140  
 His Tyr Ser Arg Ala Lys Gln Thr Leu Pro Val Ile Tyr Val Lys Leu  
 145 150 155 160  
 Tyr Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Phe Gly  
 165 170 175  
 Ile Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Asp Pro Asp  
 180 185 190  
 Thr Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val  
 195 200 205  
 Arg Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala  
 210 215 220  
 Pro Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val  
 225 230 235 240  
 Trp Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile  
 245 250 255  
 Phe Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val  
 260 265 270  
 Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr

275	280	285
Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val		
290	295	300
Phe Arg Pro Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu		
305	310	315
Leu Glu Tyr Thr Pro Thr Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala		
325	330	335
His Ser Phe Phe Asp Glu Leu Arg Asp Pro Asn Val Lys Leu Pro Asn		
340	345	350
Gly Arg Asp Thr Pro Ala Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser		
355	360	365
Ser Asn Pro Pro Leu Ala Thr Ile Leu Ile Pro Pro His Ala Arg Ile		
370	375	380
Gln Ala Ala Ala Ser Pro Pro Ala Asn Ala Thr Ala Ala Ser Asp Thr		
385	390	395
Asn Ala Gly Asp Arg Gly Gln Thr Asn Asn Ala Ala Ser Ala Ser Ala		
405	410	415
Ser Asn Ser Thr		
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<210> 16  
<211> 447  
<212> PRT  
<213> Mus musculus

<220>  
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Asp Met Phe Glu Arg Ile Ala Ser Glu Ala Ser Phe Leu Ala Arg Gln		
35	40	45
Ala Arg Asn Ser Thr Ile Asn Ser Arg Glu Ile Gln Thr Ala Ile Arg		
50	55	60
Leu Leu Leu Pro Gly Glu Leu Cys Arg Arg Gly Thr Gly Cys Gly Lys		
65	70	75
80		
Ala Ser Val Trp Ala Met Gly Gly Val Gly Ala Ser Ser Ser Gly		
85	90	95
Val Gly Gly Gly Ser Gly Gly Pro Gly Ser Thr Ser Phe Leu Gln Pro		
100	105	110
Gly Val Lys Leu Gly His Asp Ser Arg Lys Val Thr Thr Val Val Ala		
115	120	125
Thr Val Gly Gln Asp Pro Glu Arg Ser Gln Glu Val Ala Cys Thr Asp		
130	135	140
Ile Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val Tyr Gln Glu Trp		
145	150	155
160		
Leu Ala Asp Thr Arg Glu Leu Val Ala Ile Lys Lys Val Leu Gln Asp		
165	170	175
Lys Arg Phe Lys Tyr Arg Glu Leu Gln Ile Met Cys Lys Leu Asp His		
180	185	190
Cys Asn Ile Val Arg Leu Gln Tyr Phe Phe Tyr Ser Ser Gly Glu Lys		

195	200	205
Lys Asp Asp Leu Tyr Leu Asn Leu Val Leu Glu Tyr Val Pro Glu Thr		
210	215	220
Val Tyr Xaa Val Ala Arg His Phe Thr Lys Ala Lys Leu Ile Ile Pro		
225	230	235
Ile Ile Tyr Val Lys Val Tyr Met Tyr Gln Leu Phe Arg Ser Leu Ala		240
245	250	255
Tyr Ile His Ser Gln Gly Val Cys His Arg Asp Ile Asn Leu Leu Val		
260	265	270
Asp Pro Asp Thr Ala Ile Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys		
275	280	285
Gln Leu Val Leu Gly Thr Thr Val Ala Pro Glu Leu Tyr Thr Ser Ser		
290	295	300
Ile Asp Val Xaa Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Ser		
305	310	315
Gln Pro Ile Phe Pro Gly Asp Asn Gly Val Asp Gln Leu Val Glu Ile		320
325	330	335
Ile Lys Val Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn		
340	345	350
Pro Lys Tyr Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp		
355	360	365
Thr Lys Val Phe Lys Ser Arg Thr Ala Pro Arg Pro Leu His Ser Ala		
370	375	380
Leu Ala Cys Trp Ser Thr His His Thr Gln Gly Ser Pro His Leu Arg		
385	390	395
Leu Val Pro Thr Ala Ser Leu Met Asn Cys Gly Val Ser Gly Pro Ala		400
405	410	415
Pro Gln Arg Pro Pro Thr Ser Pro Cys Ser Thr Ser Val Leu Val Ile		
420	425	430
Cys Pro Ser Asn His Leu Ser Met Pro Phe Ser Ser Leu Leu Thr		
435	440	445

<210> 17  
<211> 362  
<212> PRT  
<213> Caenorhabditis elegans

<400> 17		
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20	25	30
Glu Ile Ser Tyr Tyr Asp Gln Lys Val Ile Gly Asn Gly Ser Phe Gly		
35	40	45
Val Val Phe Leu Ala Lys Leu Ser Thr Thr Asn Glu Met Val Ala Ile		
50	55	60
Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile		
65	70	75
Met Arg Lys Leu Asn His Pro Asn Ile Val Lys Leu Lys Tyr Phe Phe		80
85	90	95
Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn Leu Ile Leu		
100	105	110
Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Lys		
115	120	125
Gln Arg Gln Gln Ile Pro Met Ile Tyr Val Lys Leu Tyr Met Tyr Gln		
130	135	140

Leu Leu Arg Ser Leu Ala Tyr Ile His Ser Ile Gly Ile Cys His Arg  
 145 150 155 160  
 Asp Ile Lys Pro Gln Asn Leu Leu Ile Asp Pro Glu Ser Gly Val Leu  
 165 170 175  
 Lys Leu Cys Asp Phe Gly Ser Ala Lys Tyr Leu Val Arg Asn Glu Pro  
 180 185 190  
 Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile  
 195 200 205  
 Phe Gly Ala Thr Asn Tyr Thr Asn Ser Ile Asp Val Trp Ser Ala Gly  
 210 215 220  
 Thr Val Met Ala Glu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp  
 225 230 235 240  
 Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro  
 245 250 255  
 Thr Arg Glu Gln Ile Gln Ser Met Asn Pro Asn Tyr Lys Glu Phe Lys  
 260 265 270  
 Phe Pro Gln Ile Lys Ala His Pro Trp Asn Lys Val Phe Arg Val His  
 275 280 285  
 Thr Pro Ala Glu Ala Ile Asp Leu Ile Ser Lys Ile Ile Glu Tyr Thr  
 290 295 300  
 Pro Thr Ser Arg Pro Thr Pro Gln Ala Ala Cys Gln His Ala Phe Phe  
 305 310 315 320  
 Asp Glu Leu Arg Asn Pro Asp Ala Arg Leu Pro Ser Gly Arg Pro Leu  
 325 330 335  
 Pro Thr Leu Glu Met Asp Gly Pro Met Gly Thr Gly Glu Ile Ser Pro  
 340 345 350  
 Thr Ser Gly Asp Val Ala Gly Pro Ser Ala  
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<210> 18  
 <211> 586  
 <212> DNA  
 <213> Caenorhabditis elegans

<400> 18  
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 aaaataaaata gctagcgcaa tactcgtgca cgagatgtgc gccagcagct ccttgacgca 180  
 aaacgtgacg ttttagcacca aaatgatttt tgctcttga gttctttgtt ttcgggagca 240  
 aatttcatgc caatccctt cttnnnnca aattttcctg ttaaattcat gtaataacta 300  
 ttatttcatgt caattacaac aaataaggcat ccaagatttt atcataaaact cgttcaaacc 360  
 tcctttacc actcgaaaag caatatctcc gacttccttc aaagagaaaat gatgacaaaa 420  
 catagaaacc tcacgtata cgttttgtca tcacgatttc agtgctcact tttctcattt 480  
 cattctcgct taatttcatt tttgtcactc tcgcgtcatg tttgcattt ttcgaaagca 540  
 tttattnaaa actgaaaaaa taattcgtaa ttttcaaga atggct 586

<210> 19  
 <211> 1584  
 <212> DNA  
 <213> Caenorhabditis elegans

<400> 19  
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 ttgtcatgcg tctatcaacc gacaagttga gcagcgaagt ttgtcaaact actccattaa 180  
 cacttcttcc atctccattc ccgaaaaatg ttttgaaga agcagttcat attcagaacc 240

ttttcgcaag tctttatcac ttcatagctt atgaatttga ttttctaatac gatattcata 300  
 aaaatgtcgtaaaaactgat gattcacac ggaatatgggt tgagatcttg aagaaagtca 360  
 aagcccaagg actcaagcaa ccagtcactc tcgcgattca acgatctgat tataatgtgtc 420  
 ataaggatca atattcagcg gaatatggac tgaaacaaaat tgaaataaac aatatcgccct 480  
 cgtcaatggg agcacatgct ctacggctca ccgaatggca tatcagagtt cttaaagcgt 540  
 tgaacatttc cgatgacgtc attcaaagag caattccaga aaacaagcca attccaatga 600  
 tcgctgaagc tttattcaag gcctggccc actttcgaa cccagcagct gtggttcttg 660  
 tcgtttaga aaacgtcaat caaaatcaga ttgatcaacg ccacgtggaa tatgaacttg 720  
 aaaagttagg agtaccgatg acatgtatta tttagaagaaa tttaacacaa tgctatgaac 780  
 aattatcatt gaatgataga agcgatttga tgattgatgg gcgtcaagta gcaattgttt 840  
 acttcagagc aggatactca cctgatcatt atccatctac aaaagaatgg gaagcacgtg 900  
 agcgtatgga actttccacc gctatcaaaa ctccatggat cggctacag gtggcaaata 960  
 ctaagaagac ccagcaggctt ctttctgaag atggagttact cgaaagattc atcggaaaac 1020  
 cacgagaagc tcgcgatatt cgagcttcat tcgcaggaat gtgggctttg gagaacactg 1080  
 atgaagtgac tatgaaagtc gtggctggag ctcaaaaaaca tccagaagcg tttgttctga 1140  
 agccacaaac tgaaggtgga gccgcattgc acaccggta tgagatggtt caaatgctcc 1200  
 gagaacttcc ggaagaagag cgtggagctt tcattttgat ggagaaaactg aaaccgatga 1260  
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 aacttggagt gtatggttat gcatttggaa ggaaggatgc acctgagctt aagactgctg 1380  
 ggcatttgct ccgaacgaaa ccggaatcca cagctatggg tggagtagcc gccggacatg 1440  
 ctgttgcga caccatc ctctacgaat ttatttGatt tcgaacataa tcagaaaaact 1500  
 caacaaaaat gctgtgatgaaaccattt gctattttaga tcttttgg tttgtaaatt 1560  
 taatcattgt aatttatttga atgt 1584

&lt;210&gt; 20

&lt;211&gt; 490

&lt;212&gt; PRT

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 20

Met	Ala	Gln	Lys	Asp	Asp	Arg	Ile	Leu	Leu	Leu	Asn	Ala	Pro	Arg	Leu
1				5				10					15		
Pro	Leu	Glu	Asp	Asp	Lys	Leu	Asn	Glu	Leu	Thr	Ala	Asp	Leu	His	Asp
					20				25					30	
Trp	Ala	His	Ala	Asn	Gly	Leu	Val	Met	Arg	Leu	Ser	Thr	Asp	Lys	Leu
					35			40				45			
Ser	Ser	Glu	Val	Cys	Gln	Thr	Thr	Pro	Leu	Thr	Leu	Leu	Pro	Ser	Pro
					50			55			60				
Phe	Pro	Lys	Asn	Val	Phe	Glu	Glu	Ala	Val	His	Ile	Gln	Asn	Leu	Phe
					65			70			75			80	
Ala	Ser	Leu	Tyr	His	Phe	Ile	Ala	Tyr	Glu	Phe	Asp	Phe	Leu	Ile	Asp
					85			90			95				
Ile	His	Lys	Asn	Val	Val	Lys	Thr	Asp	Asp	Phe	Thr	Arg	Asn	Met	Val
					100			105			110				
Glu	Ile	Leu	Lys	Lys	Val	Lys	Ala	Gln	Gly	Leu	Lys	Gln	Pro	Val	Thr
					115			120			125				
Leu	Ala	Ile	Gln	Arg	Ser	Asp	Tyr	Met	Cys	His	Lys	Asp	Gln	Tyr	Ser
					130			135			140				
Ala	Glu	Tyr	Gly	Leu	Lys	Gln	Ile	Glu	Ile	Asn	Asn	Ile	Ala	Ser	Ser
					145			150			155			160	
Met	Gly	Ala	His	Ala	Leu	Arg	Leu	Thr	Glu	Trp	His	Ile	Arg	Val	Leu
					165			170			175				
Lys	Ala	Leu	Asn	Ile	Ser	Asp	Asp	Val	Ile	Gln	Arg	Ala	Ile	Pro	Glu
					180			185			190				
Asn	Lys	Pro	Ile	Pro	Met	Ile	Ala	Glu	Ala	Leu	Phe	Lys	Ala	Trp	Ser
					195			200			205				
His	Phe	Ser	Asn	Pro	Ala	Ala	Val	Val	Val	Val	Val	Glu	Asn	Val	

210	215	220
Asn Gln Asn Gln Ile Asp Gln Arg His Val Glu Tyr Glu Leu Glu Lys		
225	230	235
Leu Gly Val Pro Met Thr Cys Ile Ile Arg Arg Asn Leu Thr Gln Cys		240
245	250	255
Tyr Glu Gln Leu Ser Leu Asn Asp Arg Ser Asp Leu Met Ile Asp Gly		
260	265	270
Arg Gln Val Ala Ile Val Tyr Phe Arg Ala Gly Tyr Ser Pro Asp His		
275	280	285
Tyr Pro Ser Thr Lys Glu Trp Glu Ala Arg Glu Arg Met Glu Leu Ser		
290	295	300
Thr Ala Ile Lys Thr Pro Trp Ile Gly Leu Gln Val Ala Asn Thr Lys		
305	310	315
Lys Thr Gln Gln Val Leu Ser Glu Asp Gly Val Leu Glu Arg Phe Ile		320
325	330	335
Gly Lys Pro Arg Glu Ala Arg Asp Ile Arg Ala Ser Phe Ala Gly Met		
340	345	350
Trp Ala Leu Glu Asn Thr Asp Glu Val Thr Met Lys Val Val Ala Gly		
355	360	365
Ala Gln Lys His Pro Glu Ala Phe Val Leu Lys Pro Gln Thr Glu Gly		
370	375	380
Gly Ala Ala Leu His Thr Gly Asp Glu Met Val Gln Met Leu Arg Glu		
385	390	395
Leu Pro Glu Glu Glu Arg Gly Ala Phe Ile Leu Met Glu Lys Leu Lys		400
405	410	415
Pro Met Ile Ile Glu Asn Tyr Leu Val Leu Ala Lys Lys Pro Ile Thr		
420	425	430
Phe Ala Lys Ala Val Ser Glu Leu Gly Val Tyr Gly Tyr Ala Phe Gly		
435	440	445
Arg Lys Asp Ala Pro Glu Leu Lys Thr Ala Gly His Leu Leu Arg Thr		
450	455	460
Lys Pro Glu Ser Thr Ala Met Gly Gly Val Ala Ala Gly His Ala Val		
465	470	475
Val Asp Thr Pro Phe Leu Tyr Glu Phe Ile		480
485	490	

<210> 21  
<211> 794  
<212> DNA  
<213> Caenorhabditis elegans

<400> 21

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tgctttaaaa tccgaaaaat caagaaaaaa tcgataattt cgtcgacaa tccgcctgct 120
agcacggctt gacgctcgTT tgccgcgc tcattcgatt tgtgtgagtg cccagtggag 180
cgcgttgct aaggctaact gtgtagtcct ctggacaag atctgtgaac attgaaatga 240
aacacttggg ttcaataaaa tcacaagaaa atgatgacaa ttttgttgc gaccgaaaaaa 300
aaattataaa aattgaatat tggtatcat cgTTTcaATC tttgtttgt attaaaggca 360
cagctgctaa aaattgtttt tttttttca attttgctaa aagaaaatca attttctgat 420
tttttgtga gttcccgtgc aaatcaatgt cctagcttt taaaattgtt ttttgtatg 480
taattctaat caaattttgt cgaattttca gagattttct gctaaaacac taaaaatagt 540
ctaaaagtgc ataatttgat aaacatttac tcaaACCTT tacggaaaaa tgaaacaaaa 600
gttgcaaaaa tatagtaatt tcgcaatttt ctgaacgcgt acttaaaggt acacggTTG 660
attcggattt gtcggccac aaagtgttac cataacattt ttctcgctgc gagacccatc 720
cgaataaaatc cgtgcgccta atcagtgcga gtacgcattt catattactg ataagtGCCA 780
tttttagaaac aatg 794
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<210> 22  
<211> 1017  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 22  
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ggaaaactac caaatcttcc atatgtacca ggaaaagatg gagccggatt cgtcgaactt 240  
gtgggagaaa gcgttaaaaa tgtgaaagtgc ggcgatcgag tctggatgg atcagaagcg 300  
gacagtacag cagagtatgt tgcggtaat cgaccattcg agttgccgga aggagttcg 360  
tttgaggaag gagcttctct cggagtcgc tatcttaccg cttatcgatgc attgtttcat 420  
cttgctggtg caaagactgg cgacgttata cttgtacacg gacatctgg tggagtgg 480  
agtgcactga tgcagctggc tgcctggagg aacattgaag ctgttggcac tgctggatct 540  
gctgatggga tccggttcgt gaagagtctt ggtcacgga atgtctataa tcattcggat 600  
aagcaatatg tgtcgaaaat gaaaaatgtatccaggag gctcaacca catttcgaa 660  
atggctgctc acacaaatctt gaacacggac ctcggattgc tggctccacg tggtagagtt 720  
gcagtaattt gaaatcgcgc cgagaccacg atcaacgcaa gacaacttat gtttacagaa 780  
ggagctgttt acgggtgtac attggaaatg tcttccgagg ctgagctctt ggactttggc 840  
atcaacattt tctcattctt gaaggaaacc gagtttcgtc cacttataaa caatttgtat 900  
cgtctcgagc aattaggact ggctcatgag gaaattatga acaacaagg agcgaaagga 960  
aatctttagt tgcaaattc acattaattc attattttaa cacgccattt aaaggaa 1017

<210> 23  
<211> 328  
<212> PRT  
<213> *Caenorhabditis elegans*

<400> 23  
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Arg Phe Gly Ala Pro Asp Val Ile Glu Ala Val Glu Ser Asp Met Pro  
20 25 30  
Arg Leu Glu Lys Asn Gln Val Leu Val Arg Asn Tyr Ala Ala Gly Val  
35 40 45  
Asn Pro Val Asp Thr Tyr Ile Arg Ala Gly Gln Tyr Gly Lys Leu Pro  
50 55 60  
Asn Leu Pro Tyr Val Pro Gly Lys Asp Gly Ala Gly Phe Val Glu Leu  
65 70 75 80  
Val Gly Glu Ser Val Lys Asn Val Lys Val Gly Asp Arg Val Trp Tyr  
85 90 95  
Gly Ser Glu Ala Asp Ser Thr Ala Glu Tyr Val Ala Val Asn Arg Pro  
100 105 110  
Phe Glu Leu Pro Glu Gly Val Ser Phe Glu Glu Gly Ala Ser Leu Gly  
115 120 125  
Val Pro Tyr Leu Thr Ala Tyr Arg Ala Leu Phe His Leu Ala Gly Ala  
130 135 140  
Lys Thr Gly Asp Val Ile Leu Val His Gly Ala Ser Gly Gly Val Gly  
145 150 155 160  
Ser Ala Leu Met Gln Leu Ala Ala Trp Arg Asn Ile Glu Ala Val Gly  
165 170 175  
Thr Ala Gly Ser Ala Asp Gly Ile Arg Phe Val Lys Ser Leu Gly Ala  
180 185 190  
Arg Asn Val Tyr Asn His Ser Asp Lys Gln Tyr Val Ser Lys Met Lys  
195 200 205

Asn Asp Tyr Pro Gly Gly Phe Asn His Ile Phe Glu Met Ala Ala His  
 210 . . 215 220  
 Thr Asn Leu Asn Thr Asp Leu Gly Leu Leu Ala Pro Arg Gly Arg Val  
 225 . . 230 235 240  
 Ala Val Ile Gly Asn Arg Ala Glu Thr Thr Ile Asn Ala Arg Gln Leu  
 245 . . 250 255  
 Met Val Thr Glu Gly Ala Val Tyr Gly Val Ala Leu Gly Met Ser Ser  
 260 . . 265 270  
 Glu Ala Glu Leu Leu Asp Phe Gly Ile Asn Ile Val Ser Phe Leu Lys  
 275 . . 280 285  
 Glu Thr Glu Phe Arg Pro Leu Ile Asn Lys Leu Tyr Arg Leu Glu Gln  
 290 . . 295 300  
 Leu Gly Leu Ala His Glu Glu Ile Met Asn Asn Lys Gly Ala Lys Gly  
 305 . . 310 315 320  
 Asn Leu Val Val Gln Ile Glu His  
 325

&lt;210&gt; 24

&lt;211&gt; 1234

&lt;212&gt; DNA

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 24

agaactttc gagaagtcta ccgtttagt tttcgaaata gtaatttatt tagtgacgtt 60  
 tataaaggtt tacatgattt ggttggaaa ttttttagga gtttattcat aaaaacaaaag 120  
 taaccatgga cattccagaa gtctatagta cacgcgatcc taccgtaccc ttcatgtattt 180  
 ctatcagatt gatagcttc ggtagtcagg tacagcctaa aaaattccctg cttgccttt 240  
 tgcctacatg tctgcctacc ttcagtcata atgcctacat aatgatttt tccaattgaa 300  
 acttgcagac agaaattcaa atggcaaaaa gaaacaaaaca ccgaaacatt aatcacattt 360  
 ctttccat cagtttcct gtcaaagcac atttctggag tctgtgtgt tttttttgtg 420  
 tcttatgtg atcgggttg tgaaatttgc agttgatgtt gataacatac tttttttgtt 480  
 aacaaaaaagt gattgattag gcttgaattc agagatatgt tcgtgatact ttgcgattct 540  
 cgagccaaaa acacggatc cggctcgac acgacaactt tttcgcaaaa tacaagctga 600  
 tgtgcgcctt gaaagagtac tgtaatttca accttcgtt gttgcggaat tttcatagtt 660  
 tctcggtcaa aatatatgtt tttattaaac aaaaaactaa aacaaaacaa ttgagaacac 720  
 ataaattgtg aaaaatcaat gagaccacag caaaaaattt tgtatctaca gtactctta 780  
 aaggcgcaca tccgttctt tttcagcaa aaatgtcgct tcgagaccgg gtaccgtatt 840  
 tttttttgtg caaaacttta ggtctaggta atattaaaaa aaaattccac aaaactagaa 900  
 tcttagagctt tccatcaaatt ttttgcgtt cattgaaaa ttcatgtatgaa tttttttcca 960  
 acaatttcga aatatccctc tttcacctg gtccactgaa ttctctttcc gaaagaccac 1020  
 cacaatttca gggctccgcc cattcgtgg ttttgcgtt tcccgaccct acgtttttgt 1080  
 tgacaattgt gagagaagtg agaggttcag acacaaaaag cgacgtggc gaatgagtat 1140  
 aaatagagag tgaagtttcc aattccctc acaattgttt gtttgcatac cactttccaa 1200  
 aaaaacacaa cttcaatcaa aaatcattat ggaa 1234

&lt;210&gt; 25

&lt;211&gt; 664

&lt;212&gt; DNA

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 25

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 attttcgcct atgccggaca acaatacgag gataatagag tcactcagga acaatggcca 120  
 gcattgaaag aaacctgcgc tgctccattc ggacaacttc cattcctcgaa agtcgacgg 180  
 aagaagcttg ctcaatccca cgcgattgct cgtttcttgg ctcgtgagtt caagctcaac 240  
 ggaaaaaccg cctggaaaga ggctcaagtg aactcttttgc ccgatcaata caaggattat 300

tcaagtgagg ctcgtccata tttctacgct gtcatggat tcggccagg agacgttcaa 360  
 actttgaaga aagacatctt cttccagca tttaaaaagt tctacggatt cttggtaaac 420  
 ttcttgaagg ctccggatc cgattcctt gtcggagact cttgacctg gattgacttg 480  
 gctattgccc aacattcagc tgatttgatt gccaaaggag gtgatttcag caagttccca 540  
 gagctcaagg ctcatgccga gaagatccag gcgattccac aaatcaagaa atggatcgag 600  
 acccggtccag tcacaccatt ctaaatagct gtataaaaatc tgcaaataaa tattttttt 660  
 tttt 664

<210> 26  
<211> 207  
<212> PRT  
<213> *Caenorhabditis elegans*

<400> 26  
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 1 5 10 15  
Val Ser Arg Gln Ile Phe Ala Tyr Ala Gly Gln Gln Tyr Glu Asp Asn  
 20 25 30  
Arg Val Thr Gln Glu Gln Trp Pro Ala Leu Lys Glu Thr Cys Ala Ala  
 35 40 45  
Pro Phe Gly Gln Leu Pro Phe Leu Glu Val Asp Gly Lys Lys Leu Ala  
 50 55 60  
Gln Ser His Ala Ile Ala Arg Phe Leu Ala Arg Glu Phe Lys Leu Asn  
 65 70 75 80  
Gly Lys Thr Ala Trp Glu Glu Ala Gln Val Asn Ser Leu Ala Asp Gln  
 85 90 95  
Tyr Lys Asp Tyr Ser Ser Glu Ala Arg Pro Tyr Phe Tyr Ala Val Met  
 100 105 110  
Gly Phe Gly Pro Gly Asp Val Glu Thr Leu Lys Lys Asp Ile Phe Leu  
 115 120 125  
Pro Ala Phe Glu Lys Phe Tyr Gly Phe Leu Val Asn Phe Leu Lys Ala  
 130 135 140  
Ser Gly Ser Gly Phe Leu Val Gly Asp Ser Leu Thr Trp Ile Asp Leu  
 145 150 155 160  
Ala Ile Ala Gln His Ser Ala Asp Leu Ile Ala Lys Gly Gly Asp Phe  
 165 170 175  
Ser Lys Phe Pro Glu Leu Lys Ala His Ala Glu Lys Ile Gln Ala Ile  
 180 185 190  
Pro Gln Ile Lys Lys Trp Ile Glu Thr Arg Pro Val Thr Pro Phe  
 195 200 205

<210> 27  
<211> 404  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 27  
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tttaggaactg tacttatct gtgtctgacc aacacgtgtg aatgaagttt caactggaaa 120  
atttgttga aacactgcaa agaatttcga attttgatga taatttaaa tgccattatc 180  
agtttaata cgccactcta gtcttgatt cttgcacac acacacacac acacacacac 240  
acacacacac tcacaaaacac gcctgaaatt tcgcaatatg ctgatttaac gagaaaacat 300  
ttgatgacaa taaacttggc gtatataat aaaaggaaa attcaattca gattctcaac 360  
ggtttatttt ctgtcacaac tcttcctaattt attcaccatg gttt 404

<210> 28

<211> 630  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 28  
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atcttgctg ccgccgagca gaaatatgaa gataacagac ttaccgatga ggagtgggag 120  
aagtccaaag cggccggaaa aacccccatac aaccagcttc caatgctcgaa gtagatggc 180  
aaaccactcg ctcagtccta cgcatggct cgttatcttgc tctggatt cgggttcaac 240  
ggaaagagca gatggagaaga agctcaagtc aactccttgg ccgaccagta caaagactat 300  
tacgcggagg ctcgtccata cctcgctgtg aagcttgggtt acacagaagg agacgcggag 360  
gctcttaca caagcgtcta tcttccagtt ttcaagaaac actatggatt ctttgtcaat 420  
gcttgaagg ccagcgggtc aggattcttgc ttggaaatt ctttgactt tattgatttg 480  
cttggcgtc agcattcagc tgatttgcgtt ggacgtgaaa agtcggatct tttcaatgtat 540  
gtcccaaaaa tgaaggcaca ttccaaaaaa gttcagtcaa ttcctcagat caagaaatgg 600  
attgagactc gtccagcgag tgactggtaa 630

<210> 29  
<211> 209  
<212> PRT  
<213> *Caenorhabditis elegans*

<400> 29  
Met Val Ser Tyr Lys Leu Thr Tyr Phe Asp Gly Arg Gly Ala Gly Glu  
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Leu Cys Arg Gln Ile Phe Ala Ala Ala Glu Gln Lys Tyr Glu Asp Asn  
20 25 30  
Arg Leu Thr Asp Glu Glu Trp Glu Lys Phe Lys Ala Ala Gly Lys Thr  
35 40 45  
Pro Tyr Asn Gln Leu Pro Met Leu Glu Val Asp Gly Lys Pro Leu Ala  
50 55 60  
Gln Ser His Ala Met Ala Arg Tyr Leu Ala Arg Glu Phe Gly Phe Asn  
65 70 75 80  
Gly Lys Ser Arg Trp Glu Glu Ala Gln Val Asn Ser Leu Ala Asp Gln  
85 90 95  
Tyr Lys Asp Tyr Tyr Ala Glu Ala Arg Pro Tyr Leu Ala Val Lys Leu  
100 105 110  
Gly Tyr Thr Glu Gly Asp Ala Glu Ala Leu Tyr Thr Ser Val Tyr Leu  
115 120 125  
Pro Val Phe Lys Lys His Tyr Gly Phe Phe Val Asn Ala Leu Lys Ala  
130 135 140  
Ser Gly Ser Gly Phe Leu Val Gly Asn Ser Leu Thr Phe Ile Asp Leu  
145 150 155 160  
Leu Val Ala Gln His Ser Ala Asp Leu Leu Gly Arg Glu Lys Ser Asp  
165 170 175  
Leu Phe Asn Asp Val Pro Glu Met Lys Ala His Ser Glu Lys Val Gln  
180 185 190  
Ser Ile Pro Gln Ile Lys Lys Trp Ile Glu Thr Arg Pro Ala Ser Asp  
195 200 205  
Trp

<210> 30  
<211> 1137  
<212> DNA  
<213> *Caenorhabditis elegans*

&lt;400&gt; 30

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 taaaaatttt atggtaaagt ttcagcagg atgtttctat agaagcttt tgcatggcaa 180  
 gagtgttcaa atatacagga tatttacaaa agcctggaa gtaggcattgc ttttaggtac 240  
 aaatcagacc tacaccgcct tccttgtgg tttaccatca tagctaaaac ttccgaaca 300  
 ttcccgttg agacacaatg ttcaaaggcac aaaaccaatc acgtcataat gttatggta 360  
 ctttattgt caaaaattac aaaagcgtcg tttctggaa catgaacata ataagaattt 420  
 tcaaatttcg gtggcacaatg taaatatgtt atcttttatt tattttggaa ggatagtctt 480  
 ttcaaaggca ggtgtataac cctcaaaaga aagcacgtt gtgttcaaa gtgagactta 540  
 aattatttca aagacaaattt ccataggaaa tcattgttca tcaggcacct tcccagaaat 600  
 taggctgttag gcaggcacgt aggctgcggg aaatgcctac gcctctttg cgcgagatta 660  
 tggaaattgtg ttgtactgtc gggaaaattt cagaaacaaa aaaaaatatt ttttgcact 720  
 ttttgcgtca gttatagtag tttcttatca tggtatcttc aataataatg gcaagcgtaa 780  
 caagatgatt gatgccatgg gtttatattt gtgagtagtc acaaattgtg acacaacatt 840  
 cccttcgaaa gatctggaaa agtcacaaa ccttgcatat attttttca accaatatta 900  
 ttttgccta ctctgttcat cgtaacattt caacaacaaa aaacgatgac tacactttt 960  
 gatttcttagt caacaacgtg cgcgcaatgt gtagagcaaa tgatgacaaa ctacagaata 1020  
 tggtgagtgg agagacgaca gacatttgag aaatgggtat aaatagagac ggcggcatt 1080  
 cagtgttcaa cccttctcat cgaccactcg atttcttgct tggattttc aacaatg 1137

&lt;210&gt; 31

&lt;211&gt; 665

&lt;212&gt; DNA

<213> *Caenorhabditis elegans*

&lt;400&gt; 31

cgaccactcg atttcttgct tggattttc aacaatggtc cactacaagg tatcgactt 60  
 cccaattcgt ggagctggag agattgctcg tcagatcttgc gcctacgctg gacaagactt 120  
 cgaggacaac agaatcccaa aggaggaatg gccagctgtc aagccaagca ctccattcgg 180  
 acagcttcca ctccttgaag ttgacggaaa gttcttgcc caatctcatg ctatcgcccc 240  
 ttacttggct cgtagttcg gaatcaatgg aaagtgtgca tggaggagg ctcaagtcaa 300  
 ctcgggtgct gatcaatttca aggattacct caacgaagtt cgtccatact tcatgggtgaa 360  
 gatgggattt gctgaaggag atctcgatgc tcttgcag gacgtcttcc ttccaggatt 420  
 caagaagcac tatggattct ttgctaactt cctcaagtcg gctggatccg gatacttgg 480  
 tggagactct ttgacctttg tcgacttgct cgtagctcag cacactgctg atcttctggc 540  
 tgccaaacgca gctcttctcg atgaattccc acaattcaag gctcatcagg aaaaggttca 600  
 ctcgaatgcc aacatcaaga agtgggttggaa gactcgatcca gttactccat tctaaatgtat 660  
 ttcca 665

&lt;210&gt; 32

&lt;211&gt; 206

&lt;212&gt; PRT

<213> *Caenorhabditis elegans*

&lt;400&gt; 32

Met	Val	His	Tyr	Lys	Val	Ser	Tyr	Phe	Pro	Ile	Arg	Gly	Ala	Gly	Glu
1	5				10					15					
Ile	Ala	Arg	Gln	Ile	Leu	Ala	Tyr	Ala	Gly	Gln	Asp	Phe	Glu	Asp	Asn
				20			25			30					
Arg	Ile	Pro	Lys	Glu	Glu	Trp	Pro	Ala	Val	Lys	Pro	Ser	Thr	Pro	Phe
				35		40			45						
Gly	Gln	Leu	Pro	Leu	Leu	Glu	Val	Asp	Gly	Lys	Val	Leu	Ala	Gln	Ser
		50			55			60							
His	Ala	Ile	Ala	Arg	Tyr	Leu	Ala	Arg	Gln	Phe	Gly	Ile	Asn	Gly	Lys
65					70				75			80			

Cys Ala Trp Glu Glu Ala Gln Val Asn Ser Val Ala Asp Gln Phe Lys  
                   85                  90                  95  
 Asp Tyr Leu Asn Glu Val Arg Pro Tyr Phe Met Val Lys Met Gly Phe  
                   100              105                  110  
 Ala Glu Gly Asp Leu Asp Ala Leu Ala Lys Asp Val Phe Leu Pro Gly  
                   115              120                  125  
 Phe Lys Lys His Tyr Gly Phe Phe Ala Asn Phe Leu Lys Ser Ala Gly  
                   130              135                  140  
 Ser Gly Tyr Leu Val Gly Asp Ser Leu Thr Phe Val Asp Leu Leu Val  
                   145              150                  155                  160  
 Ala Gln His Thr Ala Asp Leu Leu Ala Ala Asn Ala Ala Leu Leu Asp  
                   165              170                  175  
 Glu Phe Pro Gln Phe Lys Ala His Gln Glu Lys Val His Ser Asn Ala  
                   180              185                  190  
 Asn Ile Lys Lys Trp Leu Glu Thr Arg Pro Val Thr Pro Phe  
                   195              200                  205

<210> 33  
<211> 420  
<212> DNA  
<213> Caenorhabditis elegans

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tattnaaatt ttagatagag aattggcgag agtttagatcc cacttggata tgacttata 180  
ttagcctaacc ctgaagctat tgcttgcttg atcatttggt ttatcgctt gctacttgga 240  
taaccagctc caatagttgt tattttgct tttgtcatca tttttccacg atttacactc 300  
tcaagtgaaa ccaactgttc tttgatgcc aacgatgaca ttacacttga taagaaaaata 360  
tatataaaact ggaattaaaa acaattgata catcgattca attactgaat tctaattatg 420

<210> 34  
<211> 716  
<212> DNA  
<213> Caenorhabditis elegans

<400> 34  
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aagctgaagc caacgactcc atttggccag cttcccattt tacaagtcga tggagaacaa 180  
ttcggtcagt caatgtctat cacaagatac ttggcaagaa aatttggact cgctggaaaa 240  
actgcagagg aagaagctt aacgtgattca atttagatc aatacagaga tttcatattc 300  
tttttccgtc aattcacttc ttccgtttc tatggaagtg acgctgatca tattaacaaa 360  
gtacgtttg aagttgttga accagcccgat gatgattct tggcaataat caataagttc 420  
ctggccaaga gtaaatcagg attcctcggt ggagactcat tgacttgggc tgatattgtg 480  
attgctgaca atttgacaag tctcctgaag aatggattct tagatttcaa caaagaaaaag 540  
aagttggaag agttctataa caagattcat tcaattccag aaattaagaa ttacgtggca 600  
acaagaaaagg atagtattgt ttaaaaatcga attatttaag tctgaattat gtatgttagta 660  
aaataatatc gttccttatca cgtctcccgag agagcgtaat aaattattat tatgtg 716

<210> 35  
<211> 207  
<212> PRT  
<213> Caenorhabditis elegans

&lt;400&gt; 35

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Pro	Ile	Arg	Ile	Met	Phe	Ala	Met	Leu	Asn	Val	Pro	Tyr	Glu	Asp	Tyr
				20				25					30		
Arg	Val	Ser	Val	Glu	Glu	Trp	Ser	Lys	Leu	Lys	Pro	Thr	Thr	Pro	Phe
				35				40					45		
Gly	Gln	Leu	Pro	Ile	Leu	Gln	Val	Asp	Gly	Glu	Gln	Phe	Gly	Gln	Ser
				50				55				60			
Met	Ser	Ile	Thr	Arg	Tyr	Leu	Ala	Arg	Lys	Phe	Gly	Leu	Ala	Gly	Lys
				65				70				75			80
Thr	Ala	Glu	Glu	Ala	Tyr	Ala	Asp	Ser	Ile	Val	Asp	Gln	Tyr	Arg	
					85				90				95		
Asp	Phe	Ile	Phe	Phe	Arg	Gln	Phe	Thr	Ser	Ser	Val	Phe	Tyr	Gly	
					100				105				110		
Ser	Asp	Ala	Asp	His	Ile	Asn	Lys	Val	Arg	Phe	Glu	Val	Val	Glu	Pro
					115				120				125		
Ala	Arg	Asp	Asp	Phe	Leu	Ala	Ile	Ile	Asn	Lys	Phe	Leu	Ala	Lys	Ser
					130				135				140		
Lys	Ser	Gly	Phe	Leu	Val	Gly	Asp	Ser	Leu	Thr	Trp	Ala	Asp	Ile	Val
					145				150				155		160
Ile	Ala	Asp	Asn	Leu	Thr	Ser	Leu	Leu	Lys	Asn	Gly	Phe	Leu	Asp	Phe
					165				170				175		
Asn	Lys	Glu	Lys	Lys	Leu	Glu	Glu	Phe	Tyr	Asn	Lys	Ile	His	Ser	Ile
					180				185				190		
Pro	Glu	Ile	Lys	Asn	Tyr	Val	Ala	Thr	Arg	Lys	Asp	Ser	Ile	Val	
					195				200				205		

&lt;210&gt; 36

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 36

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aaactttcat	tgcataaacga	tcttcataatc	ttgtttctgg	aaacgaaaat	ttccaacatg	180
aaagaaaacc	gacgctattt	attctcgcaa	cacaaaaatt	tcacattnaa	ataaccgcgg	240
tttttctcga	acagcatatt	tgacgcgcatt	tgctcgtaa	gtttgatgcg	tgcacactat	300
tttgctgttg	ttttttcttt	ttttctctaa	attttcttta	cgctttcgta	gtttctatag	360
aaacgattct	ccactcccgg	ttttcttccg	attctcaaaa	ttaattaaaa	tttagttatt	420
aaaaatcctt	tttcttgaaa	taatcgttca	atttcgagtt	ttcaagagtg	gagacgttga	480
atttgtgagc	cgcttatttt	ttctgtgttt	ttgttttgg	gttttaatc	agtgtcataa	540
tcatactttc	cattgtttct	ttattattca	aagttgtaga	ttcagtattt	tagatcggtg	600
atg						603

&lt;210&gt; 37

&lt;211&gt; 718

&lt;212&gt; DNA

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 37

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gtcgaagccg	ctcaaaaaat	gtcgaaccgt	gctgtcgctg	ttcttcgtgg	agaaaactgtt	120
accggtacta	tctggatcac	acagaagtcc	gaaaatgacc	aggcagttat	tgaaggagaa	180
atcaagggac	ttactcccgg	tcttcatgga	ttccacgttc	accaatatgg	tgattccacc	240

aacggatgca tttctgccgg tccacacttc aatccatttgc gaaagactca tggtgacca 300  
 aaatccgaga tccgtcacgt aggcatcta ggaaatgtgg aagctggagc cgatggagtg 360  
 gcaaaaatca agctcaccga cacgctcgac acgctttacg gtccaaacac tgtcggtggc 420  
 cgatctatgg ttgttcatgc cggacaagac gacctcgccg aggagtcgg agacaaggca 480  
 gaagagtcca agaagactgg aaacgcccgg a gctcgtgctg cctgcgggtgt cattgctctc 540  
 gctgctcccc agtgaactacc tgaatcgct ctctgaatct ccacacaatt cctactaaag 600  
 acaattttc atttcttgct ttgtcggttat attcttaaga atcccggtgt tcctactcct 660  
 actactgtat attttcacat aaaatttctt caaaaattca aataaagggtt gtagttc 718

<210> 38

<211> 180

<212> PRT

<213> *Caenorhabditis elegans*

<400> 38

Met	Phe	Met	Asn	Leu	Leu	Thr	Gln	Val	Ser	Asn	Ala	Ile	Phe	Pro	Gln
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					20			25				30			
Gly	Glu	Thr	Val	Thr	Gly	Thr	Ile	Trp	Ile	Thr	Gln	Lys	Ser	Glu	Asn
					35			40			45				
Asp	Gln	Ala	Val	Ile	Glu	Gly	Glu	Ile	Lys	Gly	Leu	Thr	Pro	Gly	Leu
					50			55			60				
His	Gly	Phe	His	Val	His	Gln	Tyr	Gly	Asp	Ser	Thr	Asn	Gly	Cys	Ile
					65			70			75			80	
Ser	Ala	Gly	Pro	His	Phe	Asn	Pro	Phe	Gly	Lys	Thr	His	Gly	Gly	Pro
					85			90			95				
Lys	Ser	Glu	Ile	Arg	His	Val	Gly	Asp	Leu	Gly	Asn	Val	Glu	Ala	Gly
					100			105			110				
Ala	Asp	Gly	Val	Ala	Lys	Ile	Lys	Leu	Thr	Asp	Thr	Leu	Val	Thr	Leu
					115			120			125				
Tyr	Gly	Pro	Asn	Thr	Val	Val	Gly	Arg	Ser	Met	Val	Val	His	Ala	Gly
					130			135			140				
Gln	Asp	Asp	Leu	Gly	Glu	Gly	Val	Gly	Asp	Lys	Ala	Glu	Glu	Ser	Lys
					145			150			155			160	
Lys	Thr	Gly	Asn	Ala	Gly	Ala	Arg	Ala	Ala	Cys	Gly	Val	Ile	Ala	Leu
					165			170			175				
Ala	Ala	Pro	Gln												
			180												

<210> 39

<211> 1577

<212> DNA

<213> *Caenorhabditis elegans*

<400> 39

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ttgcttccg	aagagaaaaat	gacaattata	gggtatacta	aaacatcaa	aatgtatatt	180
agactaccat	aaatataaaa	catcagtgt	gctctccaag	ctattctgac	ggattgcgac	240
aacgagctcg	ctggagttgg	catcagtgt	gaaggcagac	acataagaag	actcgaattt	300
gcggatgacg	tagtcctgac	atgttccaca	ccgggagaag	ttcaagaacg	actggaaatt	360
ttggaccgaa	taagttctaa	ttacggactc	aagatcaatc	agtcaaagac	tgttcttctg	420
aagaacaagt	tttgccggag	ccaagacgtc	ctttcaacg	gatccccat	cattcccgat	480
cctgggttgcc	gctatctggg	tcgctggatc	gacatttctg	gctcaattga	cgaagagatc	540
tcgaggagaa	taagagcagg	ttggggtgct	ctgggttgaa	tcaaagaagt	cttgagaatc	600

atgccaaca agaaaagaat catcctttc aagcaaaatg tgctaccgc ttcctgtat 660  
gctagtaaa cttggacttg taatgctgga tccacgttga gactcaaaag aactgtcacc 720  
ggtctcatcg acgctgcaga aattcgaggc tggaacttca acttggAACG ttacccctt 780  
gcaaaaacaat caagattgc aggacacatt ctacggagag atccaaACCG atggacaaaa 840  
atctgcacgg aatgggaccc gagccacaac aaaaattgga aacgtgccgt tggaggacag 900  
aagaagagat gggctaagga catcgacgaa gaatacgcaa aattccacca caattccgccc 960  
atgtcgggac aagtctgtgt tggagaaga agacttaggaa tgctcactcc gaaggctcca 1020  
tggctgtcca tcgcacgaac cgaccgtgaa aaatggaaag agtttgtccg cagttgcctc 1080  
gcaacttcaa cccaacggac atcaaagtat caaagtaagt aagtaagtaa gtaacctgaa 1140  
taaaaaacgtt gcaattaaaa aatctactcg aaaattaagt gagaattgaa ggattgcttt 1200  
ccgaagagaa aatgacaatt atagggtata ctaaaacatc aaaaatgtat attagactac 1260  
cataaatatt acgataattt aaaaattact agaaacacgc aattcggctc aaaaagcaac 1320  
aatttagact gaaaacgagc taaaagaata ttattcaaaa accactttgc tcggtaaattc 1380  
tggtgtatca tttccgcaa acactgtctt ttgtttgcg tactttgtt acgcgcattc 1440  
gaatttcagt gttcgcgctt tttgtttact tttttatTTT tcatccaaaa atcgatTTT 1500  
cagcttgata ttttctgctg aattgtaaaa atttatTTT gactattgaa tattttaaatt 1560  
atttgccatggcc gaaaatg 1577

<210> 40

<211> 813

<212> DNA

<213> *Caenorhabditis elegans*

<400> 40

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tgatttggag	cctgtaatca	gtcacgagat	tatgcaactt	catcatcaaa	agcatcatgc	180
cacttatgtg	aacaatctca	accaaattga	ggaaaagctt	cacgaggcgg	tctccaaagg	240
aaacgtcaaa	gaagctatcg	ctcttcagcc	agctctcaag	ttcaatggag	gaggacatat	300
caaccactcc	atcttctgga	ctaatttggc	aaaggacgga	ggagaaccat	cggcggagtt	360
gctcaccgca	attaagagcg	acttcggatc	tctggataat	cttcaaaaaac	agctttcggc	420
atcaactgtc	gctgttcaag	gatcaggatg	ggatgggttg	ggatactgtc	caaagggaaa	480
gatcttgaag	gttgccacat	gtgccaatca	ggatccactt	gaggcaacaa	ctggacttgt	540
tccactgttc	ggaattgacg	tctgggagca	cgcttactac	ttgcagtaca	agaatgttcg	600
accagattat	gtcaatgcta	tttggaaagat	cgcacaactgg	aagaacgtca	gcgagcgttt	660
tgcaaaggca	cagcaataaa	tgagctgaat	cacaagaatt	aatcgtcaaa	tgttagcagta	720
gaagttgact	cccattgttt	tgtaactatt	tttgtttctt	aattatttcg	aatgttaat	780
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<210> 41

<211> 221

<212> PRT

<213> *Caenorhabditis elegans*

<400> 41

Met	Leu	Gln	Asn	Thr	Val	Arg	Cys	Val	Ser	Lys	Leu	Val	Gln	Pro	Ile
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Thr	Gly	Val	Ala	Ala	Val	Arg	Ser	Lys	His	Ser	Leu	Pro	Asp	Leu	Pro
					20				25				30		
Tyr	Asp	Tyr	Ala	Asp	Leu	Glu	Pro	Val	Ile	Ser	His	Glu	Ile	Met	Gln
						35			40			45			
Leu	His	His	Gln	Lys	His	His	Ala	Thr	Tyr	Val	Asn	Asn	Leu	Asn	Gln
						50			55		60				
Ile	Glu	Glu	Lys	Leu	His	Glu	Ala	Val	Ser	Lys	Gly	Asn	Val	Lys	Glu
						65			70		75		80		
Ala	Ile	Ala	Leu	Gln	Pro	Ala	Leu	Lys	Phe	Asn	Gly	Gly	Gly	His	Ile
								85		90				95	

Asn	His	Ser	Ile	Phe	Trp	Thr	Asn	Leu	Ala	Lys	Asp	Gly	Gly	Glu	Pro
			100					105						110	
Ser	Ala	Glu	Leu	Leu	Thr	Ala	Ile	Lys	Ser	Asp	Phe	Gly	Ser	Leu	Asp
			115					120				, 125			
Asn	Leu	Gln	Lys	Gln	Leu	Ser	Ala	Ser	Thr	Val	Ala	Val	Gln	Gly	Ser
			130					135				140			
Gly	Trp	Gly	Trp	Leu	Gly	Tyr	Cys	Pro	Lys	Gly	Lys	Ile	Leu	Lys	Val
			145					150				155			160
Ala	Thr	Cys	Ala	Asn	Gln	Asp	Pro	Leu	Glu	Ala	Thr	Thr	Gly	Leu	Val
								165				170			175
Pro	Leu	Phe	Gly	Ile	Asp	Val	Trp	Glu	His	Ala	Tyr	Tyr	Leu	Gln	Tyr
								180				185			190
Lys	Asn	Val	Arg	Pro	Asp	Tyr	Val	Asn	Ala	Ile	Trp	Lys	Ile	Ala	Asn
								195				200			205
Trp	Lys	Asn	Val	Ser	Glu	Arg	Phe	Ala	Lys	Ala	Gln	Gln			
								210				215			220

<210> 42  
<211> 1162  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 42  
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cgctgcgaga ccgacacaac actttatccc attttgggt ttcccttata gcttatcata 180  
aacatgtgac gtcatcatct cttgtacaga gcaccgcgac tgggagtata agaatcgccg 240  
gaaaacatca ataatcagtt cggtagaagt gaaaattgag cgtaaaatat gatcatttt 300  
cgatgcacca tatttgcgc gcaataacttc tacaagccgc tgtgtactgc tcgtggacaa 360  
cttggatta tttttgttt taaaattca aaatagtcaa tatattgctt atttatagcg 420  
cgcccttttg acagtaagtt tgtcaaattt gcgcgttaagt tatggtgtt gcacatatgc 480  
accatacagc aacacccccgc ggcccggtca gtggcacatc catgcaaatg cgctctactg 540  
ataattttagt tttaaccagg tttaggcgca agataagaaa aaagctttgg accaaaaaat 600  
tttaggttta ttttttcgg acattttta tatacatcac aaaaatatttgg ggccactcgt 660  
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accactttc cacgtagtgc caggttgtcc cattacgctt tgatctatga aaaatgcggg 780  
aattttcgt ccagaaaaat gtgacgtcag cacgttctca accatgcgaa atcagttgaa 840  
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ccccgtatac cctgacccat aatcaatacc tacctaattt ttgtcttcc ccctacttt 960  
ttgcctgtcc aaaataagcg agactatgcc gtagtctggt gtccaaacaac atgttcctta 1020  
tcagtgataa cgctacaatc ttctttctt tttctctgtt tctttgtct ctcccaaccc 1080  
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<210> 43  
<211> 1500  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 43  
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gccggggcggc gtggcccaat gctcatgcaa gatgttagtt atatggatga gatggctcat 180  
ttcgatcgtg aacgtatccc cgagcgtgtc gttcatgcca agggagccgg agcccatgga 240  
tacttcgagg tcacccatga catcaccaag tactgtaagg ccgatatgtt caacaaggtc 300  
ggaaaacaga caccacttct cgttcggttt tcaacggtcg ctggagaatc gggatccgct 360

gatactgtcc gcgatccacg tggattctct ctcaaattct ataccgagga gggtaactgg 420  
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 aacaaggagg gaaatccgat ttattgtaaa ttccatttca agcctgctca agttccaag 720  
 aatctcgatc caactgacgc tggaaagctc gcctcttcgg atccagacta tgcgatccgc 780  
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 cataccactc aacgcgatgg tgcaatggct tatgaaaagcc agggagatgc gccgaattac 1200  
 ttcccgaaca gttccgcgg ataccgtact cgtgatgtg tgaaggagtc gacatttcag 1260  
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<210> 44

<211> 497

<212> PRT

<213> Caenorhabditis elegans

<400> 44

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						20			25				30		
Ser	Lys	Thr	Ala	Val	Leu	Thr	Ala	Gly	Arg	Arg	Gly	Pro	Met	Leu	Met
						35		40			45				
Gln	Asp	Val	Val	Tyr	Met	Asp	Glu	Met	Ala	His	Phe	Asp	Arg	Glu	Arg
					50		55			60					
Ile	Pro	Glu	Arg	Val	Val	His	Ala	Lys	Gly	Ala	Gly	Ala	His	Gly	Tyr
					65		70		75				80		
Phe	Glu	Val	Thr	His	Asp	Ile	Thr	Lys	Tyr	Cys	Lys	Ala	Asp	Met	Phe
					85			90			95				
Asn	Lys	Val	Gly	Lys	Gln	Thr	Pro	Leu	Leu	Val	Arg	Phe	Ser	Thr	Val
					100			105			110				
Ala	Gly	Glu	Ser	Gly	Ser	Ala	Asp	Thr	Val	Arg	Asp	Pro	Arg	Gly	Phe
					115			120			125				
Ser	Leu	Lys	Phe	Tyr	Thr	Glu	Glu	Gly	Asn	Trp	Asp	Leu	Val	Gly	Asn
					130		135			140					
Asn	Thr	Pro	Ile	Phe	Phe	Ile	Arg	Asp	Ala	Ile	His	Phe	Pro	Asn	Phe
					145		150			155			160		
Ile	His	Ala	Leu	Lys	Arg	Asn	Pro	Gln	Thr	His	Met	Arg	Asp	Pro	Asn
					165			170			175				
Ala	Leu	Phe	Asp	Phe	Trp	Met	Asn	Arg	Pro	Glu	Ser	Ile	His	Gln	Val
					180			185			190				
Met	Phe	Leu	Tyr	Ser	Asp	Arg	Gly	Ile	Pro	Asp	Gly	Phe	Arg	Phe	Met
					195			200			205				
Asn	Gly	Tyr	Gly	Ala	His	Thr	Phe	Lys	Met	Val	Asn	Lys	Glu	Gly	Asn
					210			215			220				
Pro	Ile	Tyr	Cys	Lys	Phe	His	Phe	Lys	Pro	Ala	Gln	Gly	Ser	Lys	Asn
					225			230			235			240	

Leu Asp Pro Thr Asp Ala Gly Lys Leu Ala Ser Ser Asp Pro Asp Tyr  
                  245                 250                 255  
 Ala Ile Arg Asp Leu Phe Asn Ala Ile Glu Ser Arg Asn Phe Pro Glu  
                  260                 265                 270  
 Trp Lys Met Phe Ile Gln Val Met Thr Phe Glu Gln Ala Glu Lys Trp  
                  275                 280                 285  
 Glu Phe Asn Pro Phe Asp Val Thr Lys Val Trp Pro His Gly Asp Tyr  
                  290                 295                 300  
 Pro Leu Ile Glu Val Gly Lys Met Val Leu Asn Arg Asn Val Lys Asn  
                  305                 310                 315                 320  
 Tyr Phe Ala Glu Val Glu Gln Ala Ala Phe Cys Pro Ala His Ile Val  
                  325                 330                 335  
 Pro Gly Ile Glu Phe Ser Pro Asp Lys Met Leu Gln Gly Arg Ile Phe  
                  340                 345                 350  
 Ser Tyr Thr Asp Thr His Tyr His Arg Leu Gly Pro Asn Tyr Ile Gln  
                  355                 360                 365  
 Leu Pro Val Asn Cys Pro Tyr Arg Ser Arg Ala His Thr Thr Gln Arg  
                  370                 375                 380  
 Asp Gly Ala Met Ala Tyr Glu Ser Gln Gly Asp Ala Pro Asn Tyr Phe  
                  385                 390                 395                 400  
 Pro Asn Ser Phe Arg Gly Tyr Arg Thr Arg Asp Asp Val Lys Glu Ser  
                  405                 410                 415  
 Thr Phe Gln Thr Thr Gly Asp Val Asp Arg Tyr Glu Thr Gly Asp Asp  
                  420                 425                 430  
 His Asn Tyr Glu Gln Pro Arg Gln Phe Trp Glu Lys Val Leu Lys Glu  
                  435                 440                 445  
 Glu Glu Arg Asp Arg Leu Val Gly Asn Leu Ala Ser Asp Leu Gly Gly  
                  450                 455                 460  
 Cys Leu Glu Glu Ile Gln Asn Gly Met Val Lys Glu Phe Thr Lys Val  
                  465                 470                 475                 480  
 His Pro Asp Phe Gly Asn Ala Leu Arg His Gln Leu Cys Gln Lys Lys  
                  485                 490                 495  
 His

<210> 45  
 <211> 1062  
 <212> DNA  
 <213> Caenorhabditis elegans

<400> 45  
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 attcagagag gttgagaatt atttcaaaaa acattcaatg tttcccttg gagtgactat 180  
 gcaaatatga aaatgttttc caaaaatatt tggatgccct gataaaaagt aggtgaaatt 240  
 tcgcagggga acatcatatt aaaatgttga atttttagaa gaaatggaaa tggatgtcg 300  
 tggatgctc gaatatttga gatattat atttactgtt aaatccgaaa ttttgacaa 360  
 acggaaaaaa tttgtgtcga aatactacat tttcgataac acaaaggta cttccataaca 420  
 cttataaaaaa ctgtttgact atcttatttc aggaaaaaaaa aatccaagaa taaacatttt 480  
 tcagaatttg aacttctaa tggctgatta ataaaacaaa gttataacaac tattcaaagc 540  
 agttgctcaa tctggcattt tcttgtgtt tttttgaat atttcatcag caagatgtt 600  
 ataattttgt gttaattcta attgtttct acaatttttc aaaccgaaaa ttgacctttg 660  
 actttgttta ctgtttctc gtgggttaac tggacttga tttctattgc tggatgtt 720  
 gtctttgatc aaatttgtat tggtttata ctgcattttt cttcaattt aaatcatcta 780  
 atatattgtc aaacaacttc ttgtttttt tttcattcaa aacttctgca aaaacgttct 840  
 cttaacaaag gttcacacaa caactctcct cttcatctt ttctctcaac aacaatgtgc 900

tggccttgca tgtttgcag tgcgggttgc ttacgcgttt tcaagatttt tggtctcccta 960  
 tctaacgtcc cgaaatgcat ttttcctt cattggttt ttttctgttc gagaaaaagtg 1020  
 accgtttgtc aaatcttcta atttcagtg aataaaaatgc tg 1062

<210> 46  
 <211> 815  
 <212> DNA  
 <213> *Caenorhabditis elegans*

<400> 46  
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 agatctccca ttgcactatg cagatttggaa acctgtatac agccatgaaa tcatacgact 180  
 tcatacatcaa aagcatcatg ccacccatgt gaacaatctc aatcagatcg aggagaaaact 240  
 tcacgaggct gtttcgaaag ggaatctaa agaagcaatt gctctccaac cagcgctgaa 300  
 attcaatgggt ggtggacaca tcaatcattc tatcttctgg accaacttgg ctaaggatgg 360  
 tggagaacct tcaaaggagc tcatggacac tattaagcgc gacttcgggtt ccctggataa 420  
 cttgcaaaaa cgtcttctg acatcaatg tgcgggtcaa ggctctggct ggggatgggtt 480  
 gggatattgc aagaaagaca aaatcttggaa gatgccacc tgcgggttcaa accaacttgg 540  
 ggaaggaatg gtcccacttt ttggaaattga cgtttggag cacgcctact acttgcagta 600  
 caaaaatgtc cgcccaact atgtccatgc tatttggaaat attgccaact ggaagaatata 660  
 cagcgagaga tttgccaatg ctgcacaata aaagcaggaa atattggaaat ttgcgggtttt 720  
 acgaaaatat tgaagataat tcagatgttag tttaaaacgc tgagaatttgc tattttgtt 780  
 attgtttaaa taaaagaacg cacagtttt tctta 815

<210> 47  
 <211> 218  
 <212> PRT  
 <213> *Caenorhabditis elegans*

<400> 47  
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 Ala Gly Val Leu Ala Val Arg Ser Lys His Thr Leu Pro Asp Leu Pro  
 20 25 30  
 Phe Asp Tyr Ala Asp Leu Glu Pro Val Ile Ser His Glu Ile Met Gln  
 35 40 45  
 Leu His His Gln Lys His His Ala Thr Tyr Val Asn Asn Leu Asn Gln  
 50 55 60  
 Ile Glu Glu Lys Leu His Glu Ala Val Ser Lys Gly Asn Leu Lys Glu  
 65 70 75 80  
 Ala Ile Ala Leu Gln Pro Ala Leu Lys Phe Asn Gly Gly His Ile  
 85 90 95  
 Asn His Ser Ile Phe Trp Thr Asn Leu Ala Lys Asp Gly Glu Pro  
 100 105 110  
 Ser Lys Glu Leu Met Asp Thr Ile Lys Arg Asp Phe Gly Ser Leu Asp  
 115 120 125  
 Asn Leu Gln Lys Arg Leu Ser Asp Ile Thr Ile Ala Val Gln Gly Ser  
 130 135 140  
 Gly Trp Gly Trp Leu Gly Tyr Cys Lys Lys Asp Lys Ile Leu Lys Ile  
 145 150 155 160  
 Ala Thr Cys Ala Asn Gln Asp Pro Leu Glu Gly Met Val Pro Leu Phe  
 165 170 175  
 Gly Ile Asp Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val  
 180 185 190  
 Arg Pro Asp Tyr Val His Ala Ile Trp Lys Ile Ala Asn Trp Lys Asn  
 195 200 205

Ile Ser Glu Arg Phe Ala Asn Ala Arg Gln

210

215

<210> 48

<211> 851

<212> DNA

<213> *Caenorhabditis elegans*

<400> 48

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 tcgcttgtt aatggacttt atttgataa gttcattttt attttctaa caatctcatc 180  
 actagctcat gatgacaatt gcaaagaaaat tcgtcatata gaggggaaaa atgctgacaa 240  
 atattgaaaa gccttcagga gagatgtaga gacgttaggag tagagacaga acataaattt 300  
 gagaagctt tagggagaat agacatagag ttaccatggg aaaaacgctc gcattttcca 360  
 tttaacgaga ttttctagat cacaacattt tgtgatccgt tgtgcggaaa tcaagcttt 420  
 tatcaaactt ttatcgtctg ttcattctt ctgacaatct ttattatctt attaaacttg 480  
 actaattgtt ttgaaagtat ttttttagat gcgaacgaag ttccattttt catgacttaa 540  
 catctcttaa cgtagtgaa attttgaat tccaattagg actacggtag gagttctgta 600  
 gttgatttcc tgaacacttg ttttctaacc tttctgaacg gatttaata tttctaaaat 660  
 tttaaattgc aaatctgagt cctattaaaa gatgtttcat ccgtaaaacc aacaaacaaa 720  
 atatcaactt atcatcatga gatttaatgt ttcctttga tttctgaat tgggtactt 780  
 tccttcaaac gacttattga actgatgtaa ctcccttct aatgttatca tttgtatTTT 840  
 tttgcagaat g 851

<210> 49

<211> 2297

<212> DNA

<213> *Caenorhabditis elegans*

<400> 49

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 aatcaagaca cggagatcaa ttgaaatggg gagatgagat tgaatacact attgtaaaat 180  
 ttgatgacgc aaacaagaaa gttcgcgtgt cgtcaaagc tgaagagctt cttataatagt 240  
 tacaagccga agagcaggtg aatgcgtatgc ttgaaactgc caatcgattt cttggagac 300  
 cagaattcgg atcctacatg atcgagggaa cccccggaaat gccttacgga ggtctcatcg 360  
 cttgcttcaa cattgtcgag gcaaacatga aattgcgcag acaggtcgatc aaaaagttat 420  
 taaagaagga tgaaacatgt ctatcgatat cgccccatc tcttggagta cctggattca 480  
 cattcccgaa agtagcagct gatagaaaga atgatgatgc agctaatacg gtttctggc 540  
 cagaacaagc tgtattcttgc ggccatccac gttcaagaa tcttacaaa aatattaaag 600  
 gtcgcagagg aagtaaagta gctatcaacg tcccgatatt caaggatacg aacacccca 660  
 gtccattcgt tgaagattt tctgcacttg gaggtcctga tgataactcgat gatgcggaaac 720  
 ctgatcacat ttatatggat catatggat tcgaaatggg gtgtgttgtt cttcaagtca 780  
 ctttccaggc tgtgaacgtc gatgaagccat gatggttgtt cgtacatcg acaccgatta 840  
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 gattgaaacc tctcaagaat tcgaaatggg ttattgataa gagtcgtac gactccacgg 1020  
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 ccatatataa acaactaatt gatggaaata ttgatgagcc actggcaaaa catattgcgc 1140  
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agtgc当地atc tgctccgaa aattt当地aaag gatcgagaaa atgtggacca cctagtcaag 1560  
 atattgaaga aatgtcgatt gatgagatta tcaatggaaa gaaaaatgga ttcccaggc 1620  
 tcatttcact tattcgccaa tttcttagatt ctgctgatgt tgatgtggat actcggtgt 1680  
 cgatttctca atattt当地ac tttat当地ca aacgagcaac tggagagatt aataacttgg 1740  
 ctcactggac acgtggattc gtacaatctc atcctgcata caaacatgac agtgatgtaa 1800  
 atgataatat agttt当地cat cttt当地aaa agatggatgc catctcaaac ggagaagatc 1860  
 actgtgagaa gctgctc当地a tgctaccgct ctaaaaccgaa tcatgccatt tctgctgctg 1920  
 ttc当地caaaggc tgaagagcac atgatcgtgt ccagccaaa acgtgcacat taggc当地ataa 1980  
 tt当地attgattt atgtgat当地tta tgettctatac gtc当地gttcc ccattc当地tc 2040  
 taggc当地ttcc atgattcaca atttt当地cat gccatatacaa tttagttggc catctacatt 2100  
 aaattt当地actga tatgtt当地atg ctat当地tcta gtaaggagat gtc当地gttcc agtaattcaa 2160  
 aaattt当地aac tctgaaat当地tca taaatgctt当地gat agtaggaatc agtacgaatg 2220  
 gtacatttaat ctgaaaat当地aa tttcatat当地tta atgtacaatg ctccc当地tgaatccatcatat 2280  
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&lt;210&gt; 50

&lt;211&gt; 654

&lt;212&gt; PRT

&lt;213&gt; Caenorhabditis elegans

&lt;400&gt; 50

Met	Gly	Leu	Leu	Thr	Lys	Gly	Ser	Pro	Leu	Thr	Trp	Ala	Glu	Thr	Val
1		5						10				15			
Pro	His	Ile	Asp	Tyr	Ile	Lys	Lys	His	Gly	Ile	Ala	Gln	Phe	Ile	Asn
		20						25				30			
Leu	Tyr	His	Arg	Leu	Lys	Ser	Arg	His	Gly	Asp	Gln	Leu	Lys	Trp	Gly
		35				40					45				
Asp	Glu	Ile	Glu	Tyr	Thr	Ile	Val	Lys	Phe	Asp	Asp	Ala	Asn	Lys	Lys
		50				55					60				
Val	Arg	Val	Ser	Cys	Lys	Ala	Glu	Glu	Leu	Leu	Asn	Lys	Leu	Gln	Ala
		65			70				75			80			
Glu	Glu	Gln	Val	Asn	Ala	Met	Leu	Gly	Thr	Ala	Asn	Arg	Phe	Leu	Trp
			85				90					95			
Arg	Pro	Glu	Phe	Gly	Ser	Tyr	Met	Ile	Glu	Gly	Thr	Pro	Gly	Met	Pro
			100				105					110			
Tyr	Gly	Gly	Leu	Ile	Ala	Cys	Phe	Asn	Ile	Val	Glu	Ala	Asn	Met	Lys
			115				120				125				
Leu	Arg	Arg	Gln	Val	Val	Lys	Lys	Leu	Leu	Lys	Lys	Asp	Glu	Thr	Cys
			130			135				140					
Leu	Ser	Ile	Ser	Phe	Pro	Ser	Leu	Gly	Val	Pro	Gly	Phe	Thr	Phe	Pro
		145			150				155			160			
Glu	Val	Ala	Ala	Asp	Arg	Lys	Asn	Asp	Asp	Ala	Ala	Asn	Ser	Val	Phe
				165				170			175				
Trp	Pro	Glu	Gln	Ala	Val	Phe	Leu	Gly	His	Pro	Arg	Phe	Lys	Asn	Leu
					180		185				190				
Thr	Lys	Asn	Ile	Lys	Gly	Arg	Arg	Gly	Ser	Lys	Val	Ala	Ile	Asn	Val
					195		200			205					
Pro	Ile	Phe	Lys	Asp	Thr	Asn	Thr	Pro	Ser	Pro	Phe	Val	Glu	Asp	Leu
				210		215				220					
Ser	Ala	Leu	Gly	Gly	Pro	Asp	Asp	Thr	Arg	Asp	Ala	Lys	Pro	Asp	His
			225		230				235			240			
Ile	Tyr	Met	Asp	His	Met	Gly	Phe	Gly	Met	Gly	Cys	Cys	Cys	Leu	Gln
					245			250			255				
Val	Thr	Phe	Gln	Ala	Val	Asn	Val	Asp	Glu	Ala	Arg	Trp	Leu	Tyr	Asp
					260		265				270				
Gln	Leu	Thr	Pro	Ile	Thr	Pro	Ile	Leu	Leu	Ala	Leu	Ser	Ala	Ala	Thr
					275		280			285					

Pro Ile Phe Arg Gly Lys Leu Ser Asn Val Asp Ser Arg Trp Asp Ile  
 290 295 300  
 Ile Ser Ala Ser Val Asp Asp Arg Thr Pro Glu Glu Arg Gly Leu Glu  
 305 310 315 320  
 Pro Leu Lys Asn Ser Lys Trp Val Ile Asp Lys Ser Arg Tyr Asp Ser  
 325 330 335  
 Thr Asp Cys Tyr Ile Tyr Pro Cys Ser Val Gly Tyr Asn Asp Ile Pro  
 340 345 350  
 Leu Gln Tyr Asp Glu Thr Ile Tyr Lys Gln Leu Ile Asp Gly Asn Ile  
 355 360 365  
 Asp Glu Pro Leu Ala Lys His Ile Ala His Met Phe Ile Arg Asp Pro  
 370 375 380  
 His Gln Val Phe Arg Glu Arg Ile Glu Gln Asp Asp Glu Lys Ser Ser  
 385 390 395 400  
 Glu His Phe Glu Thr Ile Gln Ser Ser Asn Trp Met Asn Met Arg Phe  
 405 410 415  
 Lys Pro Pro Pro Pro Asp Ala Pro Glu Ile Gly Trp Arg Val Glu Phe  
 420 425 430  
 Arg Pro Thr Glu Val Gln Leu Thr Asp Phe Glu Asn Ala Ala Tyr Cys  
 435 440 445  
 Cys Phe Val Val Leu Leu Thr Arg Met Met Ile Ser Phe Arg Leu Thr  
 450 455 460  
 Tyr Leu Met Pro Ile Ser Met Val Thr Glu Asn Met Lys Arg Ala Gln  
 465 470 475 480  
 Gln Lys Asp Ala Val Leu Asn Gln Lys Phe Leu Phe Arg Lys Gly Leu  
 485 490 495  
 Ala Glu Cys Lys Ser Ala Pro Glu Asn Leu Lys Gly Ser Glu Lys Cys  
 500 505 510  
 Gly Pro Pro Ser Gln Asp Ile Glu Glu Met Ser Ile Asp Glu Ile Ile  
 515 520 525  
 Asn Gly Lys Lys Asn Gly Phe Pro Gly Leu Ile Ser Leu Ile Arg Gln  
 530 535 540  
 Phe Leu Asp Ser Ala Asp Val Asp Val Asp Thr Arg Cys Thr Ile Ser  
 545 550 555 560  
 Gln Tyr Leu Asn Phe Ile Ser Lys Arg Ala Thr Gly Glu Ile Asn Thr  
 565 570 575  
 Leu Ala His Trp Thr Arg Gly Phe Val Gln Ser His Pro Ala Tyr Lys  
 580 585 590  
 His Asp Ser Asp Val Asn Asp Asn Ile Val Tyr Asp Leu Leu Lys Lys  
 595 600 605  
 Met Asp Ala Ile Ser Asn Gly Glu Asp His Cys Glu Lys Leu Leu Gly  
 610 615 620  
 Cys Tyr Arg Ser Lys Thr Asp His Ala Ile Ser Ala Ala Val Arg Lys  
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 Ala Glu Glu His Met Ile Val Ser Ser Gln Lys Arg Ala His  
 645 650

<210> 51  
 <211> 15  
 <212> PRT  
 <213> Caenorhabditis elegans

<400> 51  
 Thr Thr Asp Ser Ser Ser Thr Cys Ser Arg Leu Ser Ser Glu Ser  
 1 5 10 15

<210> 52  
<211> 15  
<212> PRT  
<213> Homo sapiens

<220>  
<221> PHOSPHORYLATION  
<222> 1, 5, 9, 13  
<223> Can be phosphorylated

<400> 52  
Ser Gly Ile His Ser Gly Ala Thr Thr Thr Ala Pro Ser Leu Ser  
1 5 10 15

<210> 53  
<211> 23  
<212> PRT  
<213> Caenorhabditis elegans

<220>  
<221> PHOSPHORYLATION  
<222> 15  
<223> Can be phosphorylated

<400> 53  
Asp Cys Thr Thr Asp Ser Ser Ser Thr Cys Ser Arg Leu Ser Ser Glu  
1 5 10 15  
Ser Pro Arg Tyr Thr Ser Glu  
20

<210> 54  
<211> 23  
<212> PRT  
<213> Caenorhabditis elegans

<220>  
<221> PHOSPHORYLATION  
<222> 15  
<223> Can be phosphorylated

<400> 54  
Asp Cys Thr Thr Asp Ser Ser Ser Thr Cys Ala Arg Leu Ser Ser Glu  
1 5 10 15  
Ser Pro Arg Tyr Thr Ser Glu  
20

<210> 55  
<211> 42  
<212> DNA  
<213> Caenorhabditis elegans

<400> 55  
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<210> 56  
<211> 45  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 56  
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<210> 57  
<211> 45  
<212> DNA  
<213> *Caenorhabditis elegans*

<400> 57  
cacctctgtc atcatgatga ttttagagc attatcatca tttct 45